National Aeronautics and Space Administration

NASA

DEVELOP National Program
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## Atlantic Oceans and Ecological Forecasting

Remote Sensing Applications for Investigation of Climate Change Impacts on Water Quality and Algal Blooms for Coastal and Marine Decision Support

Harmful algal blooms (HABs) have become a significant problem: they not only pose a threat to fish and humans due to their often toxic nature, but they are also a threat to the ecosystems in which they exist. Humans have altered environmental processes through various actions. Destruction of wetlands and increased urbanization have resulted in increased eutrophication, contributing greatly to the growth of algal blooms. Coastal population is on the rise, yet these communities are especially susceptible to the effects of HABs. Negative impacts to the environment, human health, and the economy make it necessary to predict future bloom occurrences. Through specific studies of climate change and urban growth on the southeast coast of the United States over a 20-year period, the team constructed a monitoring and prediction model utilizing NASA Earth observations for future blooms in the Chesapeake Bay and Southern Florida.
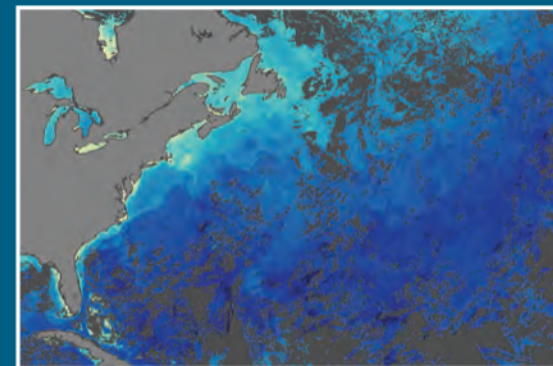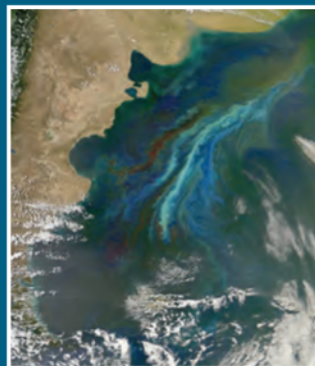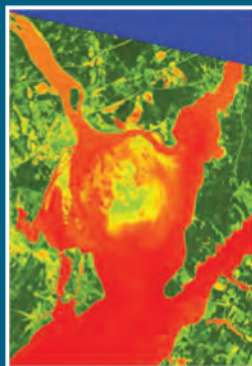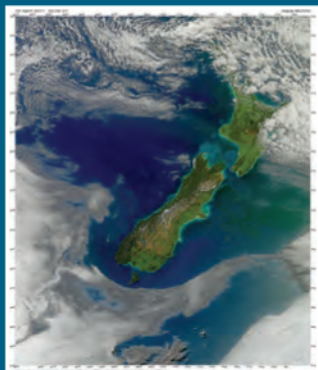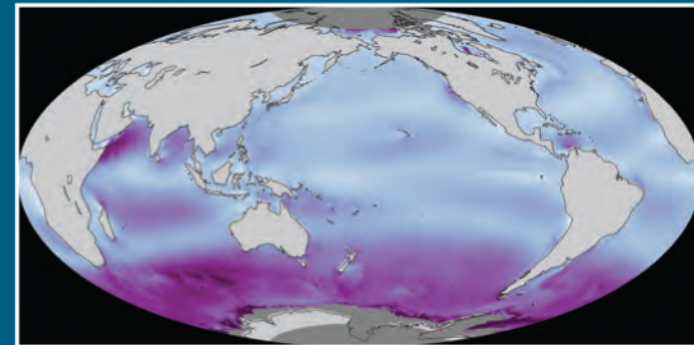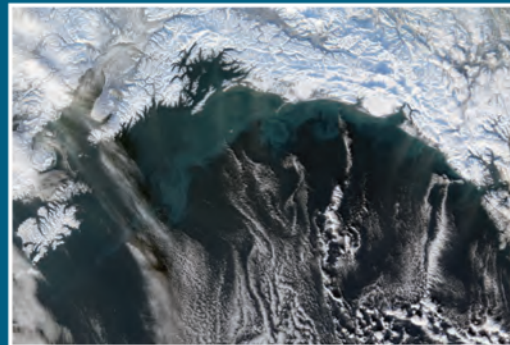
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